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LEAVE-TAKING BEHAVIOR BETWEEN PRESCHOOL  
CHILDREN AND THEIR PARENTS

by

Elizabeth Y. Aoki

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family and Child Development

Approved:

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Major Professor

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Committee Members

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Committee Members

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Dean of Graduate Studies

UTAH STATE UNIVERSITY  
Logan, Utah

1975

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Elizabeth Y. Aoki

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ABSTRACT

Leave-Taking Behavior Between Preschool Children  
and Their Parents

by

Elizabeth Y. Aoki, Master of Science

Utah State University, 1975

Major Professor: Dr. J. Craig Peery  
Department: Family and Child Development

Behavior of 84 parent-child dyads engaged in separation in preschool settings are presented. A factor analysis and correlation matrix revealed patterns of child-parent-teacher interaction, child-parent tactile-affiliative behavior, and child dependency-attachment behavior. The main pattern showed high parent-teacher gazing, smiling, and approaching interaction and high teacher smiling and gazing activity toward the child. A teacher-mediator theory in which the teacher's presence is important as an anxiety-lessening factor in child-parent leave-taking behavior is suggested and discussed to both interpret the findings and for further leave-taking research.

(81 pages)

## INTRODUCTION

Leave-taking, or the process of separation, is a common human social interaction that occurs when individuals part from each other for any number of reasons. On one level, separation occurs between friends or family members when a person is hospitalized, goes on a trip, moves to another town, or dies. More commonly, there are daily brief, temporary, and routine separations when individuals and family members part from each other for work, school, shopping, running errands, and so on. But whether the separation is to be final, long, or brief, there is usually a leave-taking "ritual" that occurs at the time of departure and/or separation.

There has been considerable research done on parent-child attachment behavior, and on the consequences of separation and lengths of interruption in parent-child relationships (e.g., Bowlby, 1969, 1973; Ainsworth, 1968, 1969; Maccoby and Masters, 1970). However, the specific behavioral elements of leave-taking have been neglected in such research. Observing and studying specific behaviors are ethological methods of research.

Many researchers have discussed the possible extension of ethological findings and methods to human social behavior (Ambrose, 1961; Barnett, 1955; Berg, 1966; Blurton Jones and Leach, 1972; Bowlby, 1957, 1958; Bridger, 1962; Chance, 1967; Eible-Eibesfeldt, 1970; Freedman, 1967, 1968, 1971; Hass, 1970; Hutt and Hutt, 1970; Jensen and Bobbitt, 1968; Kaufman, 1960a;

Klopfer, 1968; Kraus, 1970; Maslow, Rand, and Newman, 1960; Masserman, 1968; Price, 1967; Rule, 1967; Russell and Russell, 1957, 1971; Spitz, 1955; Tinbergen, 1968; Zegans, 1967).

Such papers often follow a similar pattern: reference to Darwin, a description of methods, citation of animal work, justification of its relevance, general speculation, and a plea for research. Most have appeared in non-biological publications, and probably intended to push the usefulness of ethology (McGrew, 1972). However, few of the authors have produced empirical investigations or have described and analyzed recurring fixed-action patterns (i.e., a descriptive term referring to relatively stereotyped, discrete movements capable of reliable, replicable recording by an observer) exhibited by humans in social interaction.

A few workers have conducted observational studies of human behavior as the ethologist has done with animal behavior. They recorded specific behavioral elements of spontaneously occurring social interaction without interfering with or modifying them (e.g., Esser, 1968; Wolff and Chess, 1964). The behaviors selected for examination ranged from a specific pattern, for example, the head nod (Birdwhistell, 1962), to general sociability (Rausch, Dittman, and Taylor, 1959). While watching children with their mothers at nursery school, Blurton Jones (1967) did not use predetermined categories, but starting with the observable behavior, he built up a pattern of the occurrence of the different kinds of behavior.

Blurton Jones and Leach (1972) found that interactions between children and their mothers at separation and greeting are composed of a number of items of behavior (e.g., touch, smile, pucker, wave, and so on) which can be observed repeatedly. Kendon and Ferber (1970) observed a series of actions in greeting behavior, and found a pattern of essential or conventional constituents of greeting which include facial expressions and body gestures. Similarly, Schefflen (1972) noted that adults discontinue interaction by displaying a certain "postural frame" and demonstrate a series of leave-taking movements.

Research is limited regarding the recording of the individual elements of leave-taking behavior. Previous research has concentrated upon the socio-affective-cognitive aspects of separation. Present conceptions of leave-taking are looked at under a different light and it is treated in this research not only as a social and/or psychological phenomenon, but as a physical one as well. That is, leave-taking behavior is studied as a phenomenon in itself, as well as an activity that has social and psychological implications.

This research concerns the occurrence of a number of items of behavior shown by the child and his parent in a restricted situation: when the parent leaves the child at preschool. It is hoped that something specific might be learned about leave-taking behavior.

#### Statement of the Problem

The problem to be investigated in this study was: Is leave-taking between children and their parents composed of a number of items of behavior

which can be observed repeatedly? The purpose of the study was to discover the movements and touch practices used by preschool-age children and their parents in leave-taking procedures in a preschool setting. The problem was to discover with what frequency a behavior occurred and how it related to the occurrence of other behaviors in the interaction.

### Objectives

The nature of this study was largely inductive and exploratory, with the major objective of seeking to identify and explain the items of behavior in separation and their organization by application of ethological methods of observation and research. Two secondary objectives arise from this study. One is the relevance of the observations and analysis to the concepts of attachment and separation in parents and children. The other is the relationship between the behavior of the child and the behavior of the parent, with emphasis on the leave-taking influences of one on the other, with the possible influence of a third person, the preschool teacher.

## REVIEW OF LITERATURE

The review of literature will be presented in the following order:

(1) human ethology, (2) separation, (3) attachment, and (4) nonverbal communication.

### Human Ethology

The published studies thus far are so diverse that the only inclusive definition of human ethology seems to be "a biological approach to human behavior." (See Tinbergen's discussion of ethology and related disciplines, 1963.) Several investigators have adopted ethological "attitudes" toward behavior seen in experimental conditions (McGrew, 1972). That is, they have used objective descriptions of motor patterns rather than standard instrumental responses or indirect measures. Other investigators have recorded ongoing behavior in specifically designed free-field situations or restricted environments, and others use ethological techniques when transferring concepts derived from lower animal studies to human social situations (McGrew, 1972).

The description of behavior patterns is the main problem, and no one has yet claimed to have produced a definitive list (McGrew, 1972). Although existence of a finite behavioral repertoire is taken for granted since only a finite combination of muscles and joints exist in the human body, this task is laborious because of the large number and variability of motor units. The



ethologist is faced with recognizing stereotyped, recurring patterns in a behavioral stream, then abstracting and defining these patterns in an objective, reliable way. Desmond et al. (1963) published a detailed repertoire of the newborn infant, and Prechtl (1958, 1965) elaborated on certain of these, as well as relating them to intrauterine and birth irregularities. In preliminary studies, Blurton Jones (1967), Grant (1965a), and McGrew (1969) listed various subsets of the total social behavioral repertoire of preschool children. Grant (1965b, 1968) also published lists of behavioral items for adults in interview situations. More recently, Blurton Jones (1972a) and Grant (1969) have produced expanded glossaries of human behavior patterns.

The above studies used behavioral items of approximately the same descriptive level: those easily recognizable by an observer of ongoing interactions. These might be termed "compound" patterns of behavior (McGrew, 1972). Recently, Blurton Jones (1972b) presented findings at a more basic level: specific components described in terms of individual muscles.

Ambrose (1961) provided an early detailed example in his analysis of the smiling response in infancy. Freedman (1964) investigated the smiling response and fear of strangers and their relation to heritability. Blurton Jones (1967) presented a descriptive account of children's social interactions in nursery schools.

Many workers have investigated the biological significance of specific social behavior patterns. This research generally falls into two groups:

(1) observations of normal individuals in which the causation, survival value,

and the communicative function of certain patterns was straightforwardly considered and from which useful normative data were ascertained (McGrew, 1972), and (2) observations of abnormal individuals, in which certain patterns appeared drastically altered in frequency and form, and from which some link with specific disorders and their important early social variable, related to maternal-infant attachment and later social approach-fear (Robson, 1967; Robson, Pederson, and Moss, 1969). In autistic children, however, the avoidance of eye-to-eye contact or gaze aversion prevails and appears to have a significant signaling function related to the disorder (Hutt and Ounsted, 1966).

A research group at the Park Hospital in Oxford utilized a modified ethological approach in studies of behaviorally disordered children (Hutt and Hutt, 1965; Hutt, Hutt, and Ounsted, 1963, 1965; Hutt and Hutt, 1970; Hutt, Hutt, Lee and Ounsted, 1965). They used a "free-field" situation, limited subsets of broadly defined items, and a range of specific experimental conditions. Their results, carefully quantified and often related to simultaneous physiological measures (e.g., EEG), presented valuable and immediately applicable knowledge. In another example, Currie and Brannigan (1970) used descriptive ethological techniques to assess the behavioral repertoire of a young autistic girl, whose social behavior they then appropriately modified using operant conditioning techniques. Recently, several popular works concerned with human behavior have appeared which refer to the potential usefulness of ethology (Ardey, 1961, 1967, 1970; Comfort, 1966; Hass, 1970; Lorenz, 1966; Morris, 1967, 1969, 1971; Russell and Russell, 1968; Storr, 1968).

In reviewing important historical influences on human ethology, reference is made to Darwin (McGrew, 1972). Darwin produced two publications, *The Expression of the Emotions in Man and Animals* (1872) and *A Biographical Sketch of an Infant* (1877), which show him to have been a keen and objective observer of human behavior patterns in natural contexts. His detailed descriptions of human behavior patterns, his attempts at cross-primate comparisons, and his efforts to obtain cross-cultural knowledge of human affect and expression certainly qualify him as the first human ethologist.

Research on leave-taking behavior is scarce. The concepts of attachment and separation are more familiar areas. Ethologists, asking what is meant by words like "attachment," use it as a term for a number of behavior items which vary together, or are found to be related together in a more complex way in a causal system (Blurton Jones and Leach, 1972). The term is then justified by the observable items of behavior. Nonetheless, some preliminary discussions of the general themes of separation and the child's attachment to its mother are necessary.

### Separation

The term separation, as used here, suggests the parting of two or more persons in close union or association. Literature on separation often centers around theories of separation anxiety, established in works done by Freud (1905, 1926), Rank (1924), Klein (1935), James (1890), and Suttie (1935). Of these, Freud, Rank, James, and Suttie developed theories to

explicitly account for the observation that young children are anxious when their mothers leave them.

Bowlby (1960) and Winnicott (1952) view separation anxiety as a "primary anxiety" stemming directly from the hypothesis that the child is bound to his mother by a number of instinctual response systems, each of which is primary and which together have high survival value. Such anxiety is thought of as an elemental experience and one which, if it reaches a certain degree of intensity, is linked directly with the onset of defense mechanisms.

Many authors have discussed the child's reaction to separation. Detailed data on the reactions of young children to separation come chiefly from five studies (Yarrow, 1964), three of which involved long-term temporary separations with institutional placement (Robertson and Bowlby, 1952; Roudinesco, David, and Nicolas, 1952; Spitz and Wolf, 1946), one a briefer separation for hospitalization (Schaffer, 1958; Schaffer and Callendar, 1959), and one, a comparison of two types of brief separations: in a day care nursery and in an institution (Heinicke, 1956). The children studied were all under 3 years of age at the time of separation.

The above investigations report similar reactions of children under 2 years of age following separation from their mothers and placement in institutional settings. There is a sequence of responses following separation, beginning with crying and strong protest, and followed by progressive withdrawal from the environment and from relationships with people.

It seems likely that the sequence of increasing disturbance and progressive deterioration in behavior is an inevitable consequence of long-term separation (Yarrow, 1964). The studies show that not all children show the severe reactions that have come to be considered typical. Spitz and Wolf (1946) comment on several factors which differentiated the infants showing extremely severe reactions from those showing less severe or no symptoms. One important factor was the quality of relationship with the mother prior to separation. Children separated from mother with whom they had poor relationships showed less overt disturbance than did children for whom the separation represented the loss of a close relationship.

Brief separations in unfamiliar surroundings are also more likely to bring about distress and to increase attachment behavior than similarly brief separations in familiar circumstances (Ainsworth, 1968). It seems likely that both separation distress (at the departure of an attachment figure) and separation anxiety (fear that the figure will depart) include a little bit of anger and also increases attachment behavior, and the balance between anger and attachment behavior depends in part on the quality of the child-parent attachment. Ambivalence would be minimal in a secure attachment relationship. Yet, Ainsworth (1968) found that children may defend themselves against the distress of separation by ignoring, looking away, or turning away from the attachment figure.

The anxiety and ambivalence of separation were also observed by Lorenz (1953) when he wrote about the attachment found between man and dog.

In discussing the situation familiar to many dog owners, where the owner departs or separates from the dog, Lorenz notes how, often, even before the suitcase is brought out (a visible sign of departure), the dog will sense the inevitable moment of separation, sometimes becoming depressed and refusing to leave the owner's side. Then at the moment of actual departure of the owner, the dog will often refuse to heed the calling of the owner and instead act hostile and detached.

Similarly, the human infant will display behaviors that seek to avoid separation and to maintain interaction. He may cry in order to signal that he wants contact with someone, thus delaying separation (Ainsworth, 1968).

Blurton Jones and Leach (1972) studied the behavior of 35 mothers and their 2 to 4 year-old children during separation at the beginning of a play-group and during greeting at the end. The frequencies of the various items of behavior were counted up for each individual and factor analysis showed the following main dimensions of behavior: crying at separation leading to greeting with either rapid approach with arms raised and touching the mother, or no response except looking at the mother and pointing at an object. Departure from the mother with minimal or no objection went with greetings in which play continued or objects were shown or given to the mother. Smiling by mother and child was separate from these but went with smiling to the teacher.

The child's approach and arm raising were both shown to increase the chance of the mother's touching the child. When this effect was taken into account, the mothers of children who cried at separation were found to behave

no differently from mothers of children who did not cry. When the children were analyzed separately with children under and over 2 1/2 years old (after which age crying is very rare), the mothers of young criers were found to be more responsive than mothers of old non-criers. Mothers of children who were less likely to move away from the mother were found in this and a second sample to be more responsive in terms of likelihood of touching a child who approached.

Vernon and his associates (1968) did experiments on children's responses to two hospital stress situations, admission procedures and anesthesia indication. Two variables were studied which were thought to be especially salient to preschoolers; the child's separation from the mother during a stress experience, and the child's ordinal position in the family. It was found that the mothers of first-born and late-born children did not differ in their use of child-rearing practices that were presumed to contribute to dependency and the children did not respond differently to separation from their mothers during the stressful experience. There was no indication that the predicted effect of birth order alone or the predicted interaction between birth order and separation was to be found within either the age or sex subgroup. As another view, Stewart (1967) found conflicting evidence as to the effects of ordinal position on dependency. He attributed this to the difficulty in adequately defining dependency, which indicates that the use of the instruments used to detect such behavior are questionable.

It is clear that the conclusions based on findings on intense reactions to severe separation experiences cannot be extrapolated to all types of separation conditions as has sometimes been done. Heinicke (1956) studying children, 15 to 30 months of age, in day care centers and in good residential nurseries found less extreme reactions than were reported in the studies cited earlier. The young children experiencing the partial separation associated with all day care in a day nursery gave no evidence of being seriously disturbed. Although no extremely severe personality disturbances were found in the children in the institutional setting, they did show more overt aggression as well as more regressive behavior than the children in the day nurseries.

On the whole, the findings of the few studies on immediate reactions to separation give little basis for prediction of the long-term impact of separation on the child. Although we might assume that the severity of immediate reactions is an index of the severity of trauma, there are few direct data on this issue (Yarrow and Goodwin, 1963). Inferences about the long-term impact of separation have been based almost completely on the retrospective studies which rarely have adequate information on the experiences around the time of separation.

An early study of age trends in responses to separation (Shirley and Poyntz, 1941) included children ranging in age from 2 to 7. Children were rated on the amount of upset they showed upon parting from their mothers to go to a day care center. In some instances the children were picked up at home, so that the parting occurred there. In other instances the mothers brought the



children to the center and parted from them there. A total of 199 children were included in the study, and many of them were observed several times, on the occasions of successive visits to the center every 6 months. Data are reported separately for observations taken at 11 different ages (grouped into 6-month intervals). There is a decline with age in the proportion of children who show upset over parting from their mothers either at home or at the day center, and also a decline in the proportion who ask for their mothers during her absence while they are at the center. Children aged 2 to 4 seem to be fairly similar in their amount of upset, with the greatest decline in separation reactions occurring between age 4 and 4 1/4.

The meaning to the child of the act of separation and the experiences subsequent to separation will vary with individual and experiential factors, such as the child's unique vulnerabilities and sensitivities, his developmental stage, and his experiences prior to separation (Yarrow, 1964). Separation that occurs after a long period of indifferent parental care or overt rejection and hostility is likely to have a different meaning to the child from that representing a break in an intimate, protective, gratifying relationship. It is also likely that the meaning of separation to the child will vary with such characteristics of the experience as: the degree of concomitant trauma, whether it is permanent or temporary, and if temporary, whether it is of long or short duration, and whether it is the first or one in a series of similar experiences.

The studies cited above have focused on the reactions to separation per se. In most of them, attachment is discussed as an important factor in separation reactions.

### Attachment

The concept of attachment refers to seeking proximity with some specific person and to seeking attentive and nurturant behaviors from that same individual (Maccoby and Masters, 1970). The frequency and intensity of the attachment or dependent behavior shown by a given child varies considerably from time to time and from one situation to another (Schaffer and Emerson, 1964).

Schaffer and Emerson (1964) and Ainsworth (1969) describe high responsiveness of mothers as characteristic of strong attachments during the second half of the first year and the first half of the second year. This was also supported by results found by Blurton Jones and Leach (1972).

Bowlby (1969), in studying attachment, stresses the distance-reducing effects of behavior between mother and child, which has survival value predominantly as an anti-predator device. Similarly, in studying attachment behavior in infants out-of-doors, Anderson (1972) hypothesized that it was survival value in the infant's tendency to use gestures out of context, with no expectation of a response from others. Persistence in the use of gestures such as raising arms to be lifted, reaching for unattainable objects, and pointing to imaginary novelties, suggested a continuance of communication.

Ainsworth (1967) studied infants in semiacculturated Ganda village families and formed the hypothesis that the baby does not first become attached and then show it by proximity-promoting behaviors, but rather that these are the patterns of behavior through which attachment grows. It is through these behaviors that the infant has an effect on people and attachment grows as he perceives the effect of his actions.

Caldwell and Hersher (1964) found in their study that mothers with high affiliation needs have infants with comparably high affiliation needs. Coates and his associates (1972) found that the mother's behavior is related to the degree of the infant's attachment to her. These studies suggest strongly that both parental behavior and infant behavior contribute to parent-infant interaction (Ainsworth, 1973).

A few authors have discussed the question of independent development of different kinds of interaction of the child and its mother. Rosenthal (1967) discriminated between "attention-seeking" and "proximity-seeking," in that she found these behavior patterns to differ in how much they generalize to strange female adults and that proximity-seeking is increased much more in an anxiety-provoking situation.

Works on the relationships between fear and attachment behavior have focused upon two issues: (1) the role of fear in arousing or intensifying attachment behavior, and (2) the role of attachment behavior in reducing fear or permitting the child to cope with emotional tension (Maccoby and Masters, 1972).

Maccoby and Fieldman (1972) did a short-term longitudinal study of attachment and stranger-fear in 48 American children at ages 2, 2 1/2, and 3, and also did a comparison study of 20 2 1/2 year-old kibbutz-reared Israeli children. The children were observed in a standardized series of episodes involving a stranger's entrance, the mother's departure, a brief period when the child was alone, and reunion with the mother. Measures were taken of the child's proximity to the adult; the incidence of looks, smiles, and verbalizations; the amount of manipulative play; and the incidence of crying or other signs of distress upon separation. Twenty-three of the American children were observed at age 3 in free play at the nursery school. Measures obtained included the extent and kind of social interaction with peers, adult nursery school personnel, and the mothers when they visited the school.

Results of the above study showed that from age 2 to 3, the amount of disturbance over separation from the mother declined, proximity-seeking to the mother did not change with age, and "distal" attachment behavior (speaking, smiling, showing objects) toward the mother and stranger increased with age, but looking at them did not. At age 2, friendly interaction with a stranger occurred primarily when the mother was present; by age 3, it occurred in the mother's absence as well. Proximity-seeking and distal-attachment behavior were uncorrelated. Protest over separation from the mother was not correlated with distal-attachment behavior, but was positively related to proximity-seeking. High orientation toward adult nursery school personnel was associated with high mother-attachment and stranger-acceptance the preceding year.

Neither interactions with age-mates nor reactions to mother when present in the nursery school were predictable from previous behavior.

Many works have contributed useful descriptions of human social patterns, although this often forms only a minor part of published studies. Most of the research concentrates on "learning" or on description of symptoms, so that the actual behavior in social interaction or its possible functions are usually left unexamined (McGrew, 1972). However, research in the area of nonverbal communication in human social encounters has thrown some light on the importance of studying body motion and kinesic behavior.

#### Nonverbal Communication

Until the last decade little attention was paid to the kinesic communicational behavior in man (Schefflen, 1972). Body motion, or kinesic behavior, typically includes gestures, movements of the body, limbs, hands, head, feet and legs, facial expressions (smiles), eye behavior (blinking, direction and length of gaze, and pupil dilation) and posture. The furrow of the brow, the slump of a shoulder and the tilt of the head are all within the range of kinesics (Knapp, 1972).

Birdwhistell (1970) makes some rather astounding estimates of the amount of nonverbal communication taking place. He estimates that the average adult actually speaks words for a total of only 10 to 11 minutes daily. He goes on to say that in a normal two person conversation, the verbal components carry less than 35 percent of the social meaning of the situation and

more than 65 percent is nonverbal. Looking at the quantity of nonverbal messages, Hall (1959) outlined 10 separate kinds of human activity which he called "primary message systems." He suggested that only one involves language. Ruesch and Kees (1956) discuss at least seven different systems: personal appearance and dress, gestures or deliberate movements, random action, traces of action, vocal sounds, spoken words, and written words. Only two of the seven involve words.

Tactile communication is probably a basic or primitive form of communication (Knapp, 1972). Touch is a crucial aspect of most human relationships. It plays a part in giving encouragement, expressing tenderness, showing emotional support and many other things. Jourard (1966) administered a questionnaire to students who indicated which of 24 body parts they had seen or touched on, or had seen or touched by, four other persons: mother, father, same sexed friend, and opposite sexed friend. Among other findings, Jourard's study found females considerably more accessible to touch by all persons than males. Opposite sexed friends and mothers did the most touching while many fathers touched not much more than the hands of the subjects. A study by Clay (1966) indicates that children begin to receive more touching between 14 months and 2 years than as infants. In addition, it seems girl babies receive more of these demonstrative acts of affection than do boy babies.

Schefflen (1972) states that in making or maintaining bonds, people establish a face-to-face frame and then interchange kinesic and tactile behaviors that we consider to be affiliative. Sometimes people speak as they

carry out these traditional interactions, but the reciprocal is essentially a nonverbal unit. Schefflen goes on to discuss how people "frame" activities when participating in reciprocal activities, in space and time by the way they position their bodies. They come together in a setting or standing posture so that they face each other with their bodies and usually with their faces as well. They will usually look at each other as they interact and if they speak, they project their voices to a distance appropriate for the other's hearing.

The above review of studies done in nonverbal communication gives an idea of the general findings in kinesic behavior. For the purposes of this research, nonverbal communication studies done on greeting and parting behavior were of particular interest.

#### Greeting behavior

The greeting is the prelude to any interchange. People who already know each other will exchange a mutual address on sight. They turn to face each other, wait, or approach, showing the facial display of recognition (Kendon and Ferber, 1970).

The usual sign of recognition is the "eyebrow flash," which Eibele-Eibesfeldt (1970) has filmed among peoples all over the world. The brows are raised in a rapid two-stage movement. In the first phase the greeter looks at his acquaintance, raises his lids slightly, and sometimes puts his head back a little. In the second stage, an instant later, the eyebrows are raised and the eyes are opened widely.

The initial salutation takes place at a distance of maybe 12 feet or more (in uncrowded spaces). Kendon and Ferber (1970) call this the "far-distance" phase of the greeting. If the approaching people know each other and exchange eyebrow flashes they usually exchange salutations as well and thus initiate a greeting ritual. The essential or conventional constituents of greeting are an orientation (by at least the face and eyes), an eyebrow flash of recognition, a salutation, and the presentation of the palm in some kind of waving gesture.

Kendon and Ferber also note the "close-distance" greeting where the participants approach each other. If they are acquaintances or friends, they will shake hands, although the handshake may be omitted among business associates or those who see each other often. It may be avoided among those who are antagonistic. Members of the opposite sex in American often do not know whether they should or should not shake hands. People who are close friends or relatives may then embrace, particularly if they have not seen each other for some time. Some women kiss each other and some men and women kiss. The occurrence of physical contact varies with relationships, duration of time since the last encounter, and so forth.

In reporting on studies dealing with the gaze and looking behavior in human interaction, von Cranach (1971) noted that the gaze serves as a social signal from sender to receiver signifying readiness for interaction. However, because of the many variables involved (personality properties, distance between the participants, eye movement, duration of glance, etc.), assessment



of such behavior proves to be difficult. Argyle and Kendon (1967) distinguish three ways in which visual orientation may function in interaction: (1) to look at another is a social act in itself, (2) to meet the gaze of another is a significant event and may often be an important part of the goal sought in interaction, and (3) in seeing another, much important information about him may be gathered, in addition to his direction of gaze.

### Parting behavior

When strangers pass each other on neutral ground, they go through a ritual that Goffman (1963) calls "civil inattention." At a distance of about 12 or 15 feet (in uncrowded spaces) they glance at each other, thus locating and acknowledging each other's presence. This is called "civil." As they continue to approach each other, each person looks down and away. This act of eye avoidance indicates "inattention." It clearly does not invite a longer encounter.

When people finish their activity in a group, they indicate this by discontinuing the postural frame (Schefflen, 1972). They step back, look down and away, turn out from each other, and then go on to other things. They may make a statement and/or gesture of ending their interaction.

In his study with brown laboratory rats, Chance (1962) found that they would close their eyes or throw back their heads as a means of "cutting off" social stimulus, thus avoiding threatening incombin stimulus without withdrawing from the encounter. "Cut-off" acts and postures thus allow social animals to remain together and facilitates pair formation in birds, or the formation of rank order in rats.

These "cut-off" acts are found in humans also, and function as an appeasement posture in inhibiting aggression, or avoiding direct confrontation (Hutt and Ounsted, 1966). Human "cut-off" behavior usually or typically entails gaze aversion since little social interaction is possible without gaze fixation or eye-to-eye contact.

### Summary

Developmental psychologists have so far contributed the most to our knowledge of human social behavior. The concepts of separation and attachment have been explored extensively, especially by Bowlby (1969, 1973) and Ainsworth (1968, 1969, 1973). Many authors have discussed the child's social and psychological reaction to separation and the parent-child attachment relationship. These have laid important groundwork for studying human behavior as a phenomena in itself.

Studies in nonverbal communication have focused on the effects of physical behavior on human communication: gestures, postures, and other body movements, touches, facial expressions, and eye behavior. Research on various body movements indicates a wide range of communicative potential in human interaction.

Application of ethological methods to studying human behavior has been discussed by many researchers. However, there is little empirical data of such. The boundaries of human ethology remains to be defined and further

exploratory studies such as that carried out by Blurton Jones and Leach could provide valuable information toward such definitions.

The present study is an attempt to apply ethological methods of observation to the study of human behavior, particularly leave-taking behavior. The review of literature reveals that empirical research on both human ethology and on leave-taking behavior is scarce. This study hopes to answer questions in both areas and also to stimulate further research using these techniques and focusing on these issues.

## METHODS

Included in the methods section are subjects, data collection, data analysis, and limitations.

### Subjects

Subjects were normal preschool children, their parents, and pre-school teachers. All the children attended the Child Development Center or the Child Development Laboratories in the Family Life Building, both located on the Utah State University campus in Logan, Utah. Approximately 60 children participated in the study. The children ranged from 3 to 6 years of age. The subjects were predominantly from middle-class, Caucasian families.

Preschool children and their parents were chosen as subjects since preschool attendance is generally regarded as an initial separation experience for the child. Eighty-four episodes of separating child-parent dyads were used. There were four supervising teachers and four assistant teachers at the preschools. The teacher was present in 65 percent of the parent-child leave-taking episodes.

### Data Collection

Subjects were filmed when parents brought their children to the pre-school, went through some form of leave-taking ritual, and departed. Motion

pictures were made using a Kodak XL-55 super-8 mm movie camera, set on a tripod. This camera exposed film at the rate of 18 frames per second. The films used were Kodak Kodachrome and Ektachrome super-8 mm ultra-sensitive film for indoors and outdoors use. Filming was done in natural lighting and no sound-recording device was used. The investigator did all filming. The settings and focus of filming can be found in Appendix A. Filming at the Child Development Center was done indoors with the camera facing the subjects as they entered and left the room. The camera was located outdoors at the Child Development Laboratories, filming subjects from a distance as they went through leave-taking procedures.

Each preschool had morning and afternoon class periods. Data collection was done before class periods began, as parents and children arrived at the schools. Data were collected on March 25, April 1, and May 3, 1974, at the Child Development Center, and on March 28, April 8, and May 23, 1974, at the Child Development Laboratories.

It was not possible to determine exactly how, or to what extent the experimenter's influence affected the subjects' recorded behavior. No direct explanation was given to the subjects as to the nature or purpose of the filming. Data were gathered under circumstances as close to natural as possible, although no attempt was made to disguise or hide the camera from the subjects as they were filmed. Disguising or hiding the camera was difficult to do because of the arrangement of the filming areas. Therefore, the camera was in sight of the subjects, although most of them seemed to either altogether

ignore, or acknowledge then ignore, the presence of both the camera and the investigator.

### Questionnaires

At the start of the study, a questionnaire was developed to gather data on the frequency of contact between parents and children within the home. A sample of the questionnaire can be found in Appendix B. It contains a personal background information section and questions concerning the frequency of contact made between parents and the children within the home, with specific interest in the parent-preschool child interaction. A letter of explanation accompanied the questionnaire. The questionnaire was given to only the Child Development Center subjects.

Data from the questionnaires are secondary to the purpose of this study and the results are treated as a matter of interest and used as indications of directions for further study on leave-taking behavior. Data from the completed questionnaires can be found in Appendix C. A summary of the pertinent results and their relation to the analysis of the leave-taking behavior items can be found in the results and discussion sections.

### Pre-test

The investigator did one pilot filming at the Child Development Center on February 28, 1974, between 8 and 8:30 A.M., having first gone for a preliminary observation on February 21, 1974.

The pilot film was taken with a Kodak Instamatic M20 movie camera, using Kodachrome II super-8 mm cartridge movie film for outdoor and indoor use. The cartridge contained 50 feet of film which was exposed in natural indoor lighting.

This film gave an indication of where to position the camera for gathering the data and the effects of using natural lighting. It also gave an indication of the types of behavior items occurring in leave-taking, thus allowing the investigator to obtain a partial list of behavior items used in devising a score sheet. The rest of the list was formed from items that the investigator felt might happen in leave-taking.

#### Data Analysis

Twenty cartridges of film, each consisting of 50 feet of film, were exposed and developed. They were then spliced together according to dates, school, and morning or afternoon sessions to give organization to the reels of film. The film was then viewed on a hand-operated "Dual 8" framer for super-8 mm film that allowed the investigator to analyze the film frame by frame.

A score sheet was devised to count 14 items of child behavior, 14 items of parent behavior, and eight items of teacher behavior for the periods of leave-taking: when the parent and child arrived at the school to when the parent went out of the child's view. The behavior items are listed and named in Appendix D. The list of items were devised from preliminary observation and viewing of the film, and from what the investigator thought might occur in

parent-child leave-taking experiences. Sex of child and parent were also recorded; teachers were always female. The scoring sheets had items listed across the top, separated by child, parent, or teacher behavior. If a behavior occurred, a figure (1) was entered into the appropriate square.

There were some problems in scoring the behavior items. These were: leave-taking occurring outside of the range of filming focus, two or more parent-child sets arriving simultaneously, parents sharing the job of bringing each other's children in carpools, parents dropping the children off from the car and driving off. In these cases, it was difficult to count the behaviors or it was difficult to tell exactly which child belonged to the parent. Therefore, only sequences in which leave-taking behavior was openly displayed and it was quite certain that a child-parent set was involved were scored.

The scoring sheet data were transferred onto computer coding sheets, punched onto cards, and these cards were run through a computer for a matrix correlation and for a factor analysis.



## RESULTS

The purpose of this study was to apply ethological methods of observation to leave-taking procedures of preschool children and their parents to determine patterns of leave-taking behavior. The results indicate that there are correlations between certain behaviors that show patterns in the leave-taking episodes.

### Percentage and Frequency of Behaviors

Table 1 lists the frequency of each behavior for child, parent, or teacher, the number of individuals that exhibited each behavior, and the percentage of each subject group that displayed the behavior. The behavior list is separated by child, parent, and teacher subject types.

The most frequently displayed child behaviors were: (1) gaze at teacher (78 times), (2) flat affect (71 times), (3) gaze at parent (54 times), and (4) touch (54 times). The same behaviors were displayed by the largest percentage of the child sample: (1) flat affect (85 percent), (2) gaze at teacher (61 percent), (3) touch (50 percent), and (4) gaze at parent (40 percent).

The most frequent parent behaviors were: (1) gaze at child (195 times), (2) touch (104 times), and (3) gaze at teacher (103 times). These behavior items were also displayed by the largest percentage of the parent

Table 1. Frequency of behavior occurrence, number of individuals and percentage of each subject-type sample that exhibited the behavior<sup>a</sup>

Subjects	Behavior	Frequency	No. of Ind.	Percentage of sample
Children	wave	4	3	4
	smile	4	4	5
	kiss	15	14	17
	cling	2	2	2
	touch	54	42	50
	face	12	10	12
	hug	5	5	6
	Gaze P	54	33	40
	gaze T	78	51	61
	gaze back	33	25	30
	flat affect	71	71	85
	back to P	30	26	31
	approach P	33	29	35
	initiate away	38	38 <sup>b</sup>	45
Parents	approach C	15	15	18
	approach T	24	24	29
	wave	15	11	13
	smile C	7	6	7
	smile T	9	9	11
	kiss	20	20	24
	touch	104	59	70
	groom	17	14	17
	hug	12	8	10
	gaze C	195	74	88
	gaze T	103	53	63
	gaze back	50	36	43
	greet T	35	35	42
	initiate away	41	41 <sup>b</sup>	49
Teachers	approach C	31	31	56
	approach P	30	30	55
	smile C	7	6	11
	smile P	7	7	12
	touch	26	22	40
	gaze C	98	48	87
	gaze P	82	42	76
	talk	31	31	56

<sup>a</sup>C = child; P = parent; T = teacher.

<sup>b</sup>In five parent-child sets, neither child nor parent made a definite initiated away move (6 percent of sample).

sample: (1) gaze at child (88 percent), (2) touch (70 percent), and (3) gaze at teacher (63 percent).

The teacher behavior items most frequently displayed were: (1) gaze at child (98 times), and (2) gaze at parent (82 times). The behaviors displayed by the largest percentage of teachers were: (1) gaze at child (87 percent), (2) gaze at parent (76 percent), (3) talk (56 percent), (4) approach child (56 percent), and (5) approach parent (55 percent).

Gazing (child at parent and teacher, parent at child and teacher, teacher at child and parent) appeared most frequently and was also displayed by the largest percentage of each subject type. From this result, it is noted that gazing is an important leave-taking activity. Another frequent and important parting activity is touch between parent and child. The majority of the children had flat affect, which was an expressionless look on their faces throughout the leave-taking episode.

#### Factor Analysis

In order to determine interrelationships among items, a correlation matrix and a factor analysis was run on the data. Table 2 shows the results of the factor analysis. The results indicate the patterns of intercorrelations among the items. Three important factors emerge from this analysis.

Table 2. Results of factor analysis of behavior items of children, parents, and teachers (includes sex variables of child and parent)

Behavior Items		Factor		
		1	2	3
		Percent of Variance		
		15.100	9.313	6.913
Child Behavior	wave	.006	.256	.071
	smile	.256	.208	.035
	kiss	-.070	.524 <sup>a</sup>	-.086
	cling	.196	-.087	-.772 <sup>a</sup>
	touch	.405 <sup>a</sup>	-.103	-.460 <sup>a</sup>
	face	.245	.322	-.454 <sup>a</sup>
	hug	.132	.410 <sup>a</sup>	-.345
	gaze P	.023	.486 <sup>a</sup>	.018
	gaze T	.769 <sup>a</sup>	.151	.025
	gaze back	-.080	.029	-.019
	flat affect	-.063	.371	-.150
	back to P	-.018	.484 <sup>a</sup>	.055
	approach P	.207	.097	.225
	initiate away	.678 <sup>a</sup>	-.279	.074
	sex of C	.266	-.089	-.234
Parent Behavior	approach C	-.060	.412 <sup>a</sup>	.068
	approach T	.438 <sup>a</sup>	-.253	-.131
	wave	-.041	.206	.086
	smile C	.154	.247	.198
	smile T	.399 <sup>a</sup>	.268	.352
	kiss	-.180	.500 <sup>a</sup>	-.056
	touch	.207	.454 <sup>a</sup>	-.368
	groom	.145	.457 <sup>a</sup>	-.151
	hug	-.053	.303	-.175
	gaze C	.083	-.196	-.523 <sup>a</sup>
	gaze T	.433 <sup>a</sup>	.507 <sup>a</sup>	.150
	gaze back	.739 <sup>a</sup>	.044	.027
	greet T	.218	.536 <sup>a</sup>	.179
	initiate away	-.024	-.133	.496 <sup>a</sup>
	sex of P	.035	-.117	-.153
Teacher Behavior	approach C	-.030	.139	-.517 <sup>a</sup>
	approach P	.593 <sup>a</sup>	-.366	-.165
	smile C	.484 <sup>a</sup>	.263	.204
	smile P	.611 <sup>a</sup>	.188	.227
	touch	.203	-.217	-.015
	gaze C	.803 <sup>a</sup>	-.077	-.042
	gaze P	.774 <sup>a</sup>	.035	.124
	talk	.642 <sup>a</sup>	-.229	.159

<sup>a</sup>Highest loading items, with the cut-off point at  $\pm .399$ .

### Factor 1

Factor 1 accounted for 15.1 percent of the total variance. The items with the highest loadings for child behavior were: (1) gaze at teacher (.769), (2) initiate away (.678), and (3) touch (.405).

The highest loading items for parent behavior were: (1) gaze back (.739), (2) approach teacher (.438), (3) gaze at teacher (.433), and (4) smile at teacher (.399).

The teacher behavior items with the highest loadings were: (1) gaze at child (.803), (2) gaze at parent (.774), (3) talk (.642), (4) smile at parent (.611), (5) approach parent (.593), and (6) smile at child (.484).

This is a teacher-oriented pattern. The teacher is a vital part in this pattern and very much involved in the parent-child interaction. The child looks primarily at the teacher and initiates the away while he also touches the parent. The parent looks back at the child as he leaves, but the majority of his activities are toward the teacher; the parent approaches, smiles at, and looks at the teacher. The teacher is concerned with both parent and child, but is slightly more parent-oriented: she gazes primarily at the child, looks at the parent and talks to both, but she smiles at the parent more often and approaches the parent much more than she does the child.

### Factor 2

Factor 2 accounted for 9.3 percent of the total variance. The highest loading items for child behavior were: (1) kiss (.524), (2) back to parent (.484), and (3) hug (.410). The parent behavior items with the highest

loadings were: (1) greet teacher (.536), (2) gaze at teacher (.507), (3) kiss (.500), (4) groom (.457), (5) touch (.454), and (6) approach child (.412).

There were no teacher behavior items with high loadings.

Here both child and parent engage in tactile behavior. There is an exchange of parent-child affection or attachment behavior, with minimal teacher involvement in the interaction. All the child's behavior is toward the parent. The parent does greet and look at the teacher, which is reciprocated by an approach by the teacher, but most of the parent behavior is child-oriented. Neither child nor parent initiates the away movement, which indicates a mutual agreement to separate from each other.

### Factor 3

Factor 3 accounted for 6.9 percent of the total variance. The child behavior items of highest loadings were: (1) cling (-.772), (2) touch (-.460), and (3) face (-.454). The parent behavior items of highest loadings were: (1) gaze at child (-.523), and (2) initiate away (.496). The teacher behavior item with the highest loading was: (1) approach child (-.517).

Here there is an indication of reluctance on the part of the child to leave the parent as he clings, touches, faces, and hugs the parent. In response, the parent looks at the child, but initiates the away movement. The teacher moves toward the child in apparent effort to draw him away from the parent.

### Correlation Matrix

Table 3 shows the inter-behavior item correlations of child, parent and teacher leave-taking behavior. The sex variables of the child and parent are included in the correlation matrix.

The results indicate the relationships between the individual items. The paired items with the highest correlations were: (1) teacher smile at child-teacher smile at parent (.737), (2) child cling-parent gaze at child (.703), (3) teacher gaze at child-teacher gaze at parent (.679), (4) child initiate away-teacher talk (.655), (5) child kiss-parent kiss (.638), (6) child gaze at teacher-parent gaze back (.604), (7) child gaze at teacher-teacher gaze at child (.580), (8) teacher approach parent-teacher gaze at child (.563), (9) child gaze at teacher-teacher gaze at parent (.530), (10) child initiate away-teacher gaze at parent (.509), (11) parent gaze at teacher-parent gaze back (.507), (12) child gaze at teacher-teacher talk (.506), (13) parent gaze back-teacher gaze at parent (.504), (14) child gaze at teacher-teacher smile at parent (.503), and (15) parent gaze back-teacher gaze at child (.501).

The correlations lend support to the results of the factor analysis. The great majority of the highest correlations support the findings in the first factor: teacher smiles and looks at parent and child; child initiates away when teacher talks; child looks at teacher when parent looks back before leaving; child and teacher look at each other; teacher approaches parent and looks at child; child looks at teacher when teacher looks at parent; parent looks at

Table 3. Correlation matrix of the behavior items of children, parents, and teachers, including sex variables of children and parents

Behaviors	wave	Child													Parent													Teacher											
		smile	kiss	cling	touch	face	hug	gaze P	gaze T	gaze back	flat affect	back to P	approach	sex of C	sex of P	approach C	approach T	wave	smile C	smile T	kiss	touch	groom	hug	gaze C	gaze T	gaze back	greet T	C initiate away	P initiate away	approach C	approach P	smile C	smile P	touch	gaze C	gaze P	talk	
Child	wave	.172	.141	-.028	-.033	.044	.146	.061	.013	-.464	.077	.204	.190	-.051	-.173	.034	-.014	.185	-.048	.250	.111	-.078	.018	-.059	-.020	-.024	-.029	.035	-.061	-.075	.094	-.045	.095	.109	-.101	.010	.003	-.045	
	smile		.174	-.035	-.109	.054	.180	.023	.130	-.044	-.059	.154	.233	.076	-.092	.042	-.018	.117	.284	.006	-.097	.138	.181	-.025	.079	.089	.113	-.076	-.091	.117	.177	.118	.135	.278	.254	.224	.061		
	kiss			-.068	-.025	.122	.379	.092	.002	.084	.185	.235	.053	.013	-.022	.173	-.082	-.086	-.023	.638*	.037	.117	.056	-.048	.037	.090	.003	-.249	-.103	.097	-.151	.250	.078	-.082	-.031	.031	.152		
	cling				.269	.481	.291	-.093	.096	.023	.067	.093	-.106	.132	.103	-.073	.247	-.050	-.041	-.034	-.087	.244	.096	.127	.703*	-.122	.149	-.019	.185	-.142	.160	.204	.041	.947	.033	.149	-.038	.042	
	touch					.251	.191	.020	.228	-.072	.016	.020	.050	.181	.200	-.197	.236	-.039	-.026	.094	.044	.289	.070	-.100	.203	.053	.246	-.164	.312	-.080	.086	.338	.026	.147	.271	.267	.284	.137	
	face						.375	.161	.243	-.064	.139	.177	.013	.053	.042	.131	.054	.047	.000	.062	.009	.243	.200	.140	-.036	.133	.129	.197	.110	-.078	.116	.088	-.085	.096	.063	.213	.133	.080	
	hug							.375																															
	gaze P								.069	-.067	.108	.284	.003	.094	-.158	.014	.054	-.080	-.066	.076	.332	.214	.207	.261	-.028	.098	-.003	.064	-.009	.026	.056	.016	.093	.106	-.030	.150	.044	.016	
	gaze T									.136	-.113	.136	.173	.230	.080	.017	.188	-.136	.330	.375	.081	.136	.201	.282	.033	-.067	.264	.088	.307	-.080	-.146	.105	-.045	-.161	-.061	-.177	.154	.063	.069
	gaze back										-.111	-.064	.045	.112	.233	.108	.065	.287	-.042	.136	.220	-.073	.197	.156	.024	.008	.425	.604*	.264	.429	-.031	.022	.281	.401	.503	.106	.580*	.530*	.506*
flat affect											.096	-.023	-.056	.225	.008	.176	-.052	.062	.013	.078	.006	-.114	-.125	-.064	.092	-.093	-.074	-.034	-.025	-.064	.161	.074	.063	-.045	-.093	.018	.023	.028	
back to P												.268	.006	-.095	-.007	.114	-.021	.19	.009	.042	.085	.265	.043	.139	.047	.013	.005	.153	-.039	.074	.023	-.150	.009	.010	-.177	.090	.095	.082	
approach													.297	-.318	.253	-.073	.099	.099	.121	.287	.164	.083	.081	-.069	.189	-.064	.056	.021	.060	-.069	.090	-.033	.035	.151	.030	-.021	.003		
sex of C														-.052	.033	.060	.390	-.033	-.114	.364	.055	-.125	-.072	.013	-.075	.031	.137	-.042	.136	.003	-.087	.078	.016	.168	.140	.081	.110	.120	
sex of P															.061	.203	.107	-.032	.146	.059	-.151	-.010	.054	-.110	.093	.095	.188	.085	.127	-.299	.294	.196	-.006	-.007	-.007	.170	.174	.146	
approach C																-.091	.081	.030	-.068	-.018	.012	.096	-.039	-.192	.073	-.062	.107	-.113	.096	.039	.036	-.075	.14	-.078	.002	-.012	.008	-.022	
approach T																	.073	.074	-.061	.177	.149	.062	.061	-.052	.221	-.028	.274	-.142	.013	-.020	-.099	.074	-.028	.020	-.122	-.158	.030		
Parent	wave																	.073	.074	-.061	.177	.149	.062	.061	-.052	.221	-.028	.274	-.142	.013	-.020	-.099	.074	-.028	.020	-.122	-.158	.030	
	smile C																		.000	.207	-.106	-.063	.008	-.145	.174	.002	.428	-.141	.374	-.098	-.038	.281	.083	.191	.122	.257	.157	.112	
	smile T																			.207	-.106	-.063	.008	-.145	.174	.002	.428	-.141	.374	-.098	-.038	.281	.083	.191	.122	.257	.157	.112	
	kiss																			.027	-.078	.027	.307	-.103	-.033	.163	.044	.161	-.094	.095	-.056	-.024	-.084	-.096	.014	-.033	-.094	-.112	
	touch																			.395	-.059	.044	.045	-.085	-.029	.161	.070	.460	.083	-.013	.044	-.123	.050	.057	.036	.076	.133	.032	
	groom																				-.013	-.107	.094	-.112	-.038	.179	.259	.414	.176	.071	-.030	-.054	.274	.313	-.054	.254	.339	.214	
	hug																					.179	.055	.200	-.061	.126	-.110	-.066	-.246	.053	-.043	-.196	.118	.034	-.060	-.147	-.121	-.254	
	gaze C																						.305	.362	.074		.451	.186	.211	.057	-.086	.086	.033	.244	.089	.015	.126	.112	-.074
	gaze T																								.144		.577	.282	.150	-.004	-.084	.084	-.116	.123	.052	-.012	-.068	.047	.037
	gaze back																																						
Teacher	greet T																																						
	C initiate away																																						
	P initiate away																																						
	approach C																																						
	approach P																																						
	smile C																																						
	smile P																																						
	touch																																						
	gaze C																																						
	gaze P																																						
talk																																							

\*Highest correlations with cut-off point at +.500.



teacher and gazes back before leaving; child looks at teacher when teacher talks; when parent looks back, teacher looks at parent; child looks at teacher and teacher smiles at parent; when parent looks back, teacher looks at child.

These correlations allow a closer look at item by item interrelationships than does the factor analysis. Gazing is an important interaction that occurs among child, parent, and teacher. The teacher acts as a soother for both parent and child and assures them with looks and smiles. The child seeks assurance by looking at teacher and parent. The parent assures the child and seeks assurance from the teacher with gazes at both; he looks back before leaving for a final assurance which is given with a look from the teacher. When the child initiates the away movement, the teacher is talking to either, or both, parent and child, thus easing the separation and comforting both.

Child clinging and parent looking at the child are highly correlated and fall into the third factor. The high correlation supports the finding that when the child clings, the parent is likely to look at the child.

The high correlation between child kissing and parent kissing is not surprising since kissing is usually reciprocal and/or mutual. This correlation falls into factor 2 where there was a pattern of parent-child tactile behavior.

#### Questionnaire Results

Thirty questionnaires were returned to the investigator by the Child Development Center parents. From these, the following pertinent results concerning the preschooler were obtained: (1) child hugs, kisses, or uses other

forms of touching toward the mother within the home: sometimes--5, often--16, very often--9; (2) child hugs, kisses, or uses forms of touching toward the father within the home: sometimes--9, often--13, very often--7; (3) child does not look forward to going to preschool: never--20, sometimes--10; (4) takes child to school most often: mother--22, father--12; (5) child is closer to: mother--24, father--10; (6) it is difficult for mother to say goodbye to child: never--8, sometimes--20, often--2; (7) it is difficult for father to say goodbye to child: never--11, sometimes--14, often--3; (8) mother perceives that it is difficult for child to leave her: never--8, sometimes--17, often--5; (9) father perceives that it is difficult for child to leave him: never--9, sometimes--17, often--1.

The results of the questionnaires indicate a high amount of attachment behavior found in the home and with some amount of caution, this finding could be inferred to the entire sample. It would be interesting to see if families that have more tactile behavior and affiliative needs within the home display, or do not display, high affiliation in their leave-taking procedures. A further, more extensive investigation is needed to study these relationships.

## DISCUSSION

The nature of this study was exploratory, seeking the organization of behavior items in separation. This investigation followed inductive-type research, using ethological methods of directly recording the behavior of normal individuals as it occurred. Frequencies, combinations, and patterns of behavior items were derived by recording and analyzing incidences of leave-taking behavior between preschoolers and their parents.

The results of this study indicate patterns of occurrence of leave-taking behavior. First there is a pattern where the teacher acts as a mediator between the child and the parent in their separation process. The teacher reassures both parent and child by smiling, gazing and talking to both. This is the most common pattern and indicates the importance of the teacher in mediating separation behavior of child and parent.

The importance of the teacher's presence seems to lie as much in her interaction with the parent as with the child. The teacher and parent approach and smile at each other, look at each other and both look at the child. Through this interaction, the parent is assured that the child will be taken care of after he leaves, and witnessing this, the child is also given assurance. The importance of visual orientation was pointed out by Argyle and Kendon (1967) and can be seen here with the predominance of gazing between child, parent, and teacher.

The child is the first to move away from the parent, however, the teacher could be the actual initiator of the separation. By gazing, smiling, and at times talking to the child, the teacher could be turning the child's attention to the preschool activities as well as giving him confidence that she means him no harm. The parent gazes back at the child or teacher for a reassurance that the child will be all right in the hands of the teacher and is satisfied with a look and/or smile from the teacher.

Another leave-taking pattern is one of parent-child affiliation. There is reciprocal tactile behavior between child and parent. Knapp (1972) summarized that touch gives encouragement, expresses tenderness and gives emotional support. The touch found in this study points to this type of supportive-affiliative attitude between child and parent. The parent approaches, grooms, touches, and kisses the child while the child reciprocates with hugs and kisses. This finding is related to the finding of Caldwell and Hersher (1964) that mothers with high affiliation needs have children with comparable high affiliation needs.

The parent greets and looks at the teacher indicating an acceptance of her presence, and acknowledging that he is entering her territory: the preschool.

Neither the child nor the parent make the initial separation movement away from each other, indicating that in a pattern of mutual attachment behavior, there is a mutual or simultaneous parting of child and parent. The child

turning his back to the parent is non-rejecting and is an "attachment-independence" type of behavior, such as when Ainsworth (1973) noted that responsive mothers have "secure-attached" children who move away from them to explore the surroundings.

A third leave-taking pattern is one in which the child is visibly insecure and dependent on the parent. He clings, touches and faces the parent and the parent looks at and touches the child. This supports a similar finding by Blurton Jones and Leach (1972) who found that a mother is apt to look at her child if he touches her.

Rosenthal (1967) found that proximity-seeking is increased in an anxiety-provoking situation. The child entering the strangeness of a new environment such as preschool is in a possible anxiety-provoking situation and may seek proximity to his parent for that reason. The teacher attempts to approach the child as a means of greeting, comforting, and assuring him that she will take care of him after his parent leaves. The parent initiates the away move, suggesting a reluctance on the part of the child to separate from the parent.

This third type of pattern was not observed as a common leave-taking episode in this investigation. At the start of the study, there was an expectation that children would frequently cling to the parents. However, only two children exhibited this behavior. This could be due to the secure-attached relationship found between child and parent as suggested by the results of the questionnaires.

Crying was not included on the list of behavior items on the scoring sheet due to the observation of the absence of this behavior in preliminary viewing of the filmed data. When studying separation behavior of mothers and children, Blurton Jones and Leach (1972) found crying and puckering to be common among their young subjects. The difference between their results and those of this study may be due to the fact that Blurton Jones and Leach deliberately sought crying as a separation behavior and, therefore, chose younger children over older ones to obtain such data. The age of the oldest crier they found was 3 years old. The average age of the children in the present study was 4.4 years old. McGrew (1972) noted that preschool children rarely weep and Shirley and Poyntz (1941) found that there is a decline with age in children who show upset over parting from their mothers with the greatest decline in separation reactions occurring between 4 and 4 1/2 years of age. Maccoby and Fieldman (1972) also found that the amount of disturbance a child shows over separation from the mother declines with age. There were several 3-year-olds in the present study, the youngest age of the children. None of these children cried which may be due again to the secure-attached parent-child relationships.

Waving by children was another behavior that was expected by the investigator to occur frequently. McGrew (1972) noted that waving as a leave-taking behavior occurs during the first year when it is associated with words like "bye-bye," persists in nursery-age children toward adults, and on through adulthood. However, only four children waved in the present study.

In his own study, McGrew found that waving occurred too infrequently for reliability testing.

The flat affect was the most frequently occurring child behavior. This behavior may be explained as a defense mechanism as found in Bowlby's (1968) discussion on separation anxiety. Lorenz (1953) and Ainsworth (1968) also discussed that there is often behavior of ignoring, looking away, or turning away from an attachment figure when that figure is about to leave. However, this flat affect did not show up as being an important part of any of the patterns found in the factor analysis or correlation matrix.

In describing the factors and their loadings, there are no definite reputed causal factors. The term "pattern" does not necessarily imply that each pattern occurs on its own exclusive of the other patterns. The factor analysis is able to make this statement for certain pairs of patterns, while others are orthogonal to each other (Blurton Jones and Leach, 1972). It is hard to propose real causal factors that might be responsible for these dimensions of variation. Causal factors behind the individual variations and the patterns are likely to be entangled in the background of each family, the age differences of the children, sex differences, and so on.

Spitz and Wolf (1946) suggest that the quality of the relationship of the child with the parent prior to the separation experience determines the experience itself. Yarrow (1964) also suggests that leave-taking behavior will vary from child to child according to the individual experiences in separation and the child's developmental stage. Coates and his colleagues found that

Mother-child behavior is related to the degree of attachment behavior of both. These findings and ideas indicate and suggest reasons for the different patterns formed from the data of this study.

One important conclusion from this study is the importance of the teacher in the separation of parent and child in the preschool setting. Fassler (1974) and Peery (1975) suggest that teachers are vital to the leave-taking processes of child and parent and that the teacher should consciously take an active role in the interaction. Maccoby and Fieldman (1972) found that high orientation toward adult nursery school personnel was associated with stranger acceptance the following year. This is a strong indication of the importance of the role of the teacher. She stimulates independence and self-assurance in the child as she handles the leave-taking process of child from parent in an assuring and soothing manner. She can ease the separation experience for both child and parent.

Preschool and nursery school teachers should familiarize themselves with the reaction of the children as they attempt to separate from their parents. Recognition of a leave-taking pattern could aide teachers in relating successfully with child and parent. Also, from a list of possible leave-taking patterns or behavior item correlations, further studies can be carried out to seek the definite reasons for and causalities of such occurrences.

We need to know what determines the difference between the patterns of separation. We also need to know what controls the amount of leave-taking behavior and whether there is any developmental relationship between the



various patterns. It seems that progress will be made if many variables of appropriate situations, and if wider aspects such as the child's relationships to siblings, peers, parents and extended family are also taken into account. Therefore, a multivariate approach, as well as longitudinal data, is needed.

## SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### Summary

The objectives of the present study were to determine the relationship between child, parent, and teacher behavior during a separation experience in a preschool setting. This was an inductive-exploratory investigation, thus had no set hypothesis.

Data were collected by filming leave-taking procedures of preschool children and their parents and teachers. The films were viewed in slow motion and the separation behaviors of the individuals were scored. The results were then run through a computer for factor analysis and correlations.

The factor analysis indicated three patterns or dimensions of variations in the observed leave-taking behavior. The first, also having the highest number of inter-behavior item correlations, inferred the importance of the teacher in the separation interaction of parent and child. Gazing activity is high between all three persons. The teacher and parent have an exchange of smiling, gazing and approaching each other, indicating an interaction that is intended to put the child at ease so that he is able to make the initial move away from the parent.

The second dimension of variation indicated a pattern of parent-child attachment behavior. Hugging and kissing are mutually exchanged, suggesting

a secure-attached relationship, allowing both child and parent to make a mutual or simultaneous movement of separation.

The third pattern of leave-taking behavior indicates child dependency and attachment toward the parent. The teacher steps toward the child as a sign of helping the child to part from the parent and for the parent to move away and complete the separation.

The correlation matrix of the individual behavior items supported the results found in the factor analysis. The item by item correlations followed the same type of pattern as found in the first factor, which was the most common type of observed leave-taking behavior. Child and parent seek assurance through gazes and the teacher gives them that assurance through gazes and smiles.

### Conclusions

It was found that there are patterns in leave-taking behavior. Gazing is an important interaction that occurs among the child, parent, and teacher. The major finding is that the teacher acts as a mediator and assures child and parent of her supervisory capabilities of looking after the child when she looks and smiles at them both. This leads to the conclusion that the teacher plays a vital role in the separation of child and parent. She is a facilitator of the separation and lessens the anxiety for the child who is being separated from his parent and entering a strange environment.

The findings of this study also support the overall conclusion that ethological methods of observation can be applied to studying human behavior and that important results can be found in correlations and interrelationships of behavior items. This type of study lays a foundation upon which additional studies can determine the causal and developmental factors of the occurrences and patterns of leave-taking behavior.

### Recommendations

On the basis of the present study, the following recommendations are made to others interested in investigating leave-taking behavior:

1. Study and compare the frequency of leave-taking behavior items of same children at the beginning and the end of the school term.
2. Conduct similar studies, fully incorporating the use and results of a questionnaire, as a basis of comparison of family-perceived attachment behavior and observed leave-taking behavior.
3. Investigate the sex differences of individuals in comparisons of behavior frequencies.

## LITERATURE CITED

- Ainsworth, M. D. S. 1967. *Infancy in Uganda: Infant care and growth of love*. Baltimore, Maryland: Johns Hopkins University Press. 471 p.
- \_\_\_\_\_. 1968. The development of infant-mother attachment, pp. 1-94. In B. M. Caldwell and H. N. Ricciuti (Eds.). *Review of child development research, Volume III*. Chicago, Illinois: University of Chicago Press.
- \_\_\_\_\_. 1969. Object relations, dependency, and attachment: a theoretical review of the infant-mother relationship. *Child Development* 40:969-1026.
- \_\_\_\_\_. 1973. Patterns of attachment, pp. 206-213. In S. J. Hutt and C. Hutt (Eds.). *Early human development*. London: Oxford University Press.
- Ambrose, J. A. 1961. The development of the smiling response in early infancy, pp. 179-196. In B. M. Foss (Ed.). *Determinants of infant behaviour, Volume I*. London: Bethuen.
- Anderson, J. W. 1972. Attachment behavior out of doors, pp. 199-215. In N. G. Blurton Jones (Ed.). *Ethological studies of child behaviour*. Cambridge: Cambridge University Press.
- Ardrey, R. 1961. *African genesis: a personal investigation into the animal origins and nature of man*. London: Fontana.
- \_\_\_\_\_. 1967. *The territorial imperative: a personal inquiry into the animal origins of property and nations*. London: Collins. 390 p.
- \_\_\_\_\_. 1970. *The social contract: a personal inquiry into the evolutionary sources of order and disorder*. London: Collins. 405 p.
- Argyle, M. and A. Kendon. 1967. The experimental analysis of social performance. In L. Berkowitz (Ed.). *Advances in experimental social psychology, Volume III*. New York: Academic Press.
- Barnett, S. A. 1955. "Displacement: behaviour and "psychosomatic" disorder. *Lancet* 2:1203-1208.

- Berg, I. 1966. A note of observations of young children with their mothers in a child psychiatric clinic. *Journal of Child Psychology and Psychiatry* 7:69-73.
- Birdwhistell, R. L. 1962. Critical moments in the psychiatric interview, pp. 179-188. *In* T. T. Tourlentes (Ed.). *Research approaches to psychiatric problems: a symposium*. New York: Grune and Stratton.
- \_\_\_\_\_. 1970. *Kinesics and context*. Philadelphia, Pennsylvania: University of Pennsylvania Press. 338 p.
- Blurton Jones, N. 1967. An ethological study of some aspects of social behaviour of children in nursery school. *In* D. Morris (Ed.). *Primate ethology*. Chicago, Illinois: Aldine Publishing Company.
- \_\_\_\_\_. 1972a. Categories of child-child interaction, pp. 97-127. *In* N. Blurton Jones (Ed.). *Ethological studies of child behaviour*. London and New York: Cambridge University Press.
- \_\_\_\_\_. 1972b. Criteria used in describing facial expressions of children. *Human Biology*.
- \_\_\_\_\_, and C. M. Leach. 1972. Behaviour of children and their mothers at separation and greeting, pp. 217-247. *In* N. Blurton Jones (Ed.). *Ethological studies of child behaviour*. London and New York: Cambridge University Press.
- Bowlby, J. 1957. An ethological approach to research in child development. *British Journal of Medical Psychology* 30:230-240.
- \_\_\_\_\_. 1958. The nature of the child's tie to his mother. *International Journal of Psychoanalysis* 39:350-373.
- \_\_\_\_\_. 1960. Separation anxiety. *International Journal of Psychoanalysis* 41:89-113.
- \_\_\_\_\_. 1969. *Attachment and loss, Volume I: attachment*. New York: Basic Books.
- \_\_\_\_\_. 1973. *Attachment and loss, Volume II: separation*. New York: Basic Books. 444 p.
- Bridger, W. H. 1962. Ethological concepts and human development. *Recent Advances in Biological Psychiatry* 4:95-107.

- Caldwell, B. M. and L. Hersher. 1964. Mother-infant interaction during the first year of life. *Merrill-Palmer Quarterly* 10:119-128.
- Chance, M. R. A. 1962. An interpretation of some agonistic postures: the role of "cut-off" acts and postures. *Symposia of the Zoological Society of London*, No. 8.
- \_\_\_\_\_. 1967. Attention structure as the basis of primate rank orders. *Man* 2:503-518.
- Clay, V. S. 1966. The effect of culture on mother-child tactile communication. Unpublished Ph. D. dissertation, Columbia University, New York.
- Comfort, A. 1966. *Nature and human nature*. London: Weidenfeld and Nicolson. 222 p.
- Currie, K. H. and C. R. Brannigan. 1970. Behavioural analysis and modification with an autistic child, pp. 77-90. *In* S. J. Hutt and C. Hutt (Eds.). *Behaviour studies in psychiatry*. Oxford: Pergamon.
- Darwin, C. R. 1872. *The expression of the emotions in man and animals*. London: Murray. 372 p.
- \_\_\_\_\_. 1877. A biographical sketch of an infant. *Mind* 2:286-294.
- Desmond, M. M., R. R. Franklin, C. Vallbona, R. M. Hill, R. Plumb, H. Arnold, and J. Watts. 1963. The clinical behavior of the newly born. I. The term baby. *Journal of Pediatrics* 62:307-325.
- Eibl-Eibesfeldt, I. 1970. *Ethology. The biology of behavior*. New York: Holt. 530 p.
- Esser, A. H. 1968. Dominance hierarchy and clinical course of psychiatrically hospitalized boys. *Child Development* 39:147-157.
- Fassler, J. 1974. Children's literature and early childhood separation experiences. *Young Children* 24-25:311-323.
- Freedman, D. G. 1964. Smiling in blind infants and the issue of innate vs. acquired. *Journal of Child Psychology and Psychiatry* 5:171-184.
- \_\_\_\_\_. 1967. A biological view of man's social behavior, pp. 152-188. *In* W. Etkin (Ed.). *Social behavior from fish to man*. Chicago, Illinois: University of Chicago Press.

- \_\_\_\_\_. 1968. Personality development in infancy: a biological approach, pp. 258-287. In S. L. Washburn and P. C. Jay (Eds.). *Perspectives on human evolutions*, Volume I. New York: Holt.
- \_\_\_\_\_. 1971. An evolutionary approach to research on the life cycle. *Human Development* 14:87-99.
- Freud, S. 1905. Fragment of an analysis of a case of hysteria. *S. E.* 7:7-122.
- \_\_\_\_\_. 1926. Inhibitions: symptoms and anxiety. *S. E.* 20:87-172.
- Goffman, E. 1963. *Behavior in public places*. New York: The Free Press. 248 p.
- Grant, E. E. 1965a. The contribution of ethology to child psychiatry, pp. 20-37. In J. G. Howells (Ed.). *Modern perspectives in child psychiatry*. Edinburgh: Oliver and Boyd.
- \_\_\_\_\_. 1965b. An ethological description of some schizophrenic patterns of behaviour. *Proceedings of the Leeds symposium on behavioral disorders*. Dagenham, Essex: May and Baker.
- \_\_\_\_\_. 1968. An ethological description of non-verbal behaviour during interviews. *British Journal of Medical Psychology* 41:177-184.
- \_\_\_\_\_. 1969. Human facial expression. *Man* 4:525-536.
- Hall, E. T. 1959. *The silent language*. New York: Doubleday. 240 p.
- Hass, H. 1970. *The human animal. The mystery of man's behavior*. London: Hodder and Stoughton. 246 p.
- Heinicke, C. 1956. Some effects of separating two-year-old children from their parents: a comparative study. *Human Relations* 9:105-176.
- Hutt, C. and S. J. Hutt. 1965. Effects of environmental complexity on stereotyped behaviours of children. *Animal Behavior* 13:1-4.
- \_\_\_\_\_, \_\_\_\_\_, and C. Ounsted. 1963. A method for the study of children's behaviour. *Developmental Medicine and Child Neurology* 5:233-245.
- \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. 1965. The behaviour of children with and without upper CNS lesions. *Behaviour* 24:246-268.



- \_\_\_\_\_, and C. Ounsted. 1966. Biological significance of gaze aversion with particular reference to the syndrome of infantile autism. *Behavioral Science* 11:346-356.
- Hutt, S. J. and C. Hutt. 1970. Direct observation and measurement of behavior. Springfield, Illinois: Thomas. 224 p.
- \_\_\_\_\_, \_\_\_\_\_, D. Lee, and C. Ounsted. 1965. A behavioural and electroencephalographic study of autistic children. *Journal of Psychiatric Research* 3:181-197.
- James, W. 1890. *Principles of psychology*. New York: Holt. 54 p.
- Jensen, G. D. and R. A. Bobbitt. 1968. Implications of primate research for understanding infant development. *Science and Psychoanalysis* 12:55-81.
- Jourard, S. M. 1966. An exploratory study of body-accessibility. *British Journal of Social and Clinical Psychology* 5:221-231.
- Kaufman, I. C. 1960a. Some ethological theories of social relationships and conflict situations. *Journal of the American Psychoanalytic Association* 8:671-685.
- \_\_\_\_\_. 1960b. Some theoretical implications from animal behavior studies for the psychoanalytic concepts of instinct, energy and drive. *International Journal of Psychoanalysis* 41:318-326.
- Kendon, A. and A. Gerber. 1970. A description of some human greetings. In Michael and Crook (Eds.). *Comparative ecology and behavior of primates*. London: Academic Press.
- Klein, M. 1935. A contribution to the psychogenesis of manic-depressive states. In M. Klein (Ed.). *Contributions to psycho-analysis* 1921-1945. London: Hogarth.
- Klopfer, P. H. 1968. From Ardrey to altruism: a discourse on the biological basis of human behavior. *Behavioral Science* 13:339-401.
- Knapp, M. L. 1972. *Nonverbal communication in human interaction*. New York: Holt, Rinehart and Winston.
- Kraus, R. F. 1970. Implications of recent developments in primate research for psychiatry. *Comprehensive Psychiatry* 11:328-335.

- Lorenz, K. 1953. *Man meets dog*. Baltimore, Maryland: Penguin Books. 198 p.
- \_\_\_\_\_. 1966. *On aggression*. London: Methuen. 306 p.
- Maccoby, E. E. and S. Fieldman. 1972. Mother-attachment and stranger-reactions in the 3rd year of life. *Monographs of the Society for Research in Child Development* 37(1):
- \_\_\_\_\_, and J. D. Masters. 1970. Attachment and dependency, pp. 73-158. *In* P. H. Mussen. *Carmichael's Manual of Child Psychology*, Volume II. New York: Wiley.
- McGrew, W. C. 1969. An ethological study of agonistic behaviour in pre-school children, pp. 149-159. *In* C. R. Carpenter. *Proceedings of the second International Congress of Primatology*, Volume I. Basel: Karger.
- \_\_\_\_\_. 1972. *An ethological study of children's behavior*. New York and London: Academic Press. 247 p.
- Maslow, A. H., H. Rand, and S. Newman. 1960. Some parallels between sexual and dominance behavior of infra-human primates and fantasies of patients in psychotherapy. *Journal of Nervous and Mental Disease* 131:202-212.
- Masserman, J. H. 1968. *Animal and human. Science and psychoanalysis*, Volume XII. New York: Grune and Stratton.
- Morris, D. 1967. *The naked ape. A zoologist's study of the human animal*. London: Jonathan Cape. 252 p.
- \_\_\_\_\_. 1969. *The human zoo*. London: Jonathan Cape. 256 p.
- \_\_\_\_\_. 1971. *Intimate behaviour*. London: Jonathan Cape.
- Peery, J. C. 1975. Teachers, greet your pre-schoolers: teachers as mediators of parent-child separation. Unpublished article.
- Prechtl, H. F. R. 1958. The directed head turning response and allied movements of the human baby. *Behaviour* 13:212-242.
- \_\_\_\_\_. 1965. Problems of behavioral studies in the newborn infant, pp. 75-98. *In* D. S. Lehrman, R. A. Hinde, and E. Shaw (Eds.). *Advances in the study of behavior*, Volume I. London and New York: Academic Press.

- Price, J. 1967. The dominance hierarchy and the evolution of mental illness. *Lancet* 2:243-246.
- Rank, O. 1924. The trauma of birth. London: Kegan Paul. 100 p.
- Rausch, H. L., A. T. Dittman, and T. Taylor. 1959. The interpersonal behavior of children in residential treatment. *Journal of Abnormal and Social Psychology* 58:9-26.
- Robertson, J. and J. Bowlby. 1952. Responses of young children to separation from their mothers. *Courier* 2:131-142.
- Robson, K. S. 1967. The role of eye-to-eye contact in maternal-infant attachment. *Journal of Child Psychology and Psychiatry* 8:13-25.
- \_\_\_\_\_, F. A. Pederson, and H. A. Moss. 1969. Developmental observations of diadic gazing in relation to the fear of strangers and social approach behavior. *Child Development* 40:619-627.
- Rosenthal, M. K. 1967. The generalization of dependency behaviour from mother to stranger. *Journal of Child Psychological Psychiatry* 8:117-134.
- Ruesch, J. and W. Kees. 1956. Nonverbal communication: notes on the visual perception of human relations. Berkeley and Los Angeles: University of California Press. 205 p.
- Rule, C. 1967. A theory of human behavior based on studies of non-human primates. *Perspectives in Biology and Medicine* 10:153-176.
- Russell, C. and W. M. S. Russell. 1957. An approach to human ethology. *Behavioral Science* 2:169-200.
- \_\_\_\_\_, and \_\_\_\_\_. 1968. Violence, monkeys and man. London: Macmillan. 532 p.
- \_\_\_\_\_, and \_\_\_\_\_. 1971. Primate male behavior and its human analogs. *Impact of Science on Society* 21:63-74.
- Schaffer, H. R. 1958. Objective observations of personality development in early infancy. *British Journal of Medical Psychology* 31:174-183.
- \_\_\_\_\_, and W. M. Callendar. 1959. Psychological effects of hospitalization in infancy. *Pediatrics* 24:528-539.

- \_\_\_\_\_, and P. E. Emerson. 1964. The development of social attachments in infancy. Monograph of the Society for Research in Child Development 29(3).
- Schefflen, A. E. 1972. Body language and social order. Englewood Cliffs, New Jersey: Prentice-Hall.
- Shirley, M. and L. Poyntz. 1941. Influence of separation from the mother on children's emotional responses. *Journal of Psychology* 12:251-282.
- Spitz, R. A. 1955. A note on the extrapolation of ethological findings. *International Journal of Psychoanalysis* 36:162-165.
- \_\_\_\_\_, and K. M. Wolf. 1946. The smiling response: a contribution to the ontogenesis of social relations. *Genetics and Psychological Monographs* 34:57-125.
- Stewart, R. H. 1967. Birth order and dependency. *Journal of Personality and Social Psychology* 6:192-193.
- Storr, A. 1968. Human aggression. London: Allen Lane. 127 p.
- Suttie, I. D. 1935. The origins of love and hate. London: Kegan Paul.
- Tingbergen, N. 1963. On aims and methods of ethology. *Zeitschrift für Tierpsychologie* 20:410-433. (Original not seen; information found in W. C. McGrew. *An Ethological Study of Children's Behavior*. New York and London: Academic Press, 1972.)
- \_\_\_\_\_. 1968. On war and peace in animals and man. *Science* 160:1411-1418.
- Vernon, D., J. M. Foley, and J. L. Schulman. 1967. Effect of mother-child separation and birth order on young children's responses to two potentially stressful experiences. *Journal of Personality and Social Psychology* 5:162-174.
- von Cranach, M. 1971. The role of orienting behavior in human interaction, pp. 217-237. In A. H. Esser (Ed.). *Behavior and Environment: The use of space by animals and men*. New York and London: Plenum Press.
- Winnicott, D. W. 1952. Anxiety associated with insecurity. In D. W. Winnicott. *Collected papers*. London: Tavistock.

- Wolff, S. and S. Chess. 1964. A behavioural study of schizophrenic children. *Acta Psychiatrica Scandinavica* 40:438-466.
- Yarrow, L. J. 1964. Separation from parents during early childhood, pp. 89-136. *In* M. Hoffman and L. Hoffman (Eds.), *Review of child development research*, Volume I. New York: Russell Sage Foundation.
- \_\_\_\_\_, and M. S. Goodwin. 1963. Effects of change in mother figure during infancy on personality development. *Progress Report*. Family and Child Services, Washington, D. C.
- Zegans, L. S. 1967. An appraisal of ethological contributions to psychiatric theory and research. *American Journal of Psychiatry* 124:729-739.

## APPENDIXES

Appendix A: Preschool Settings

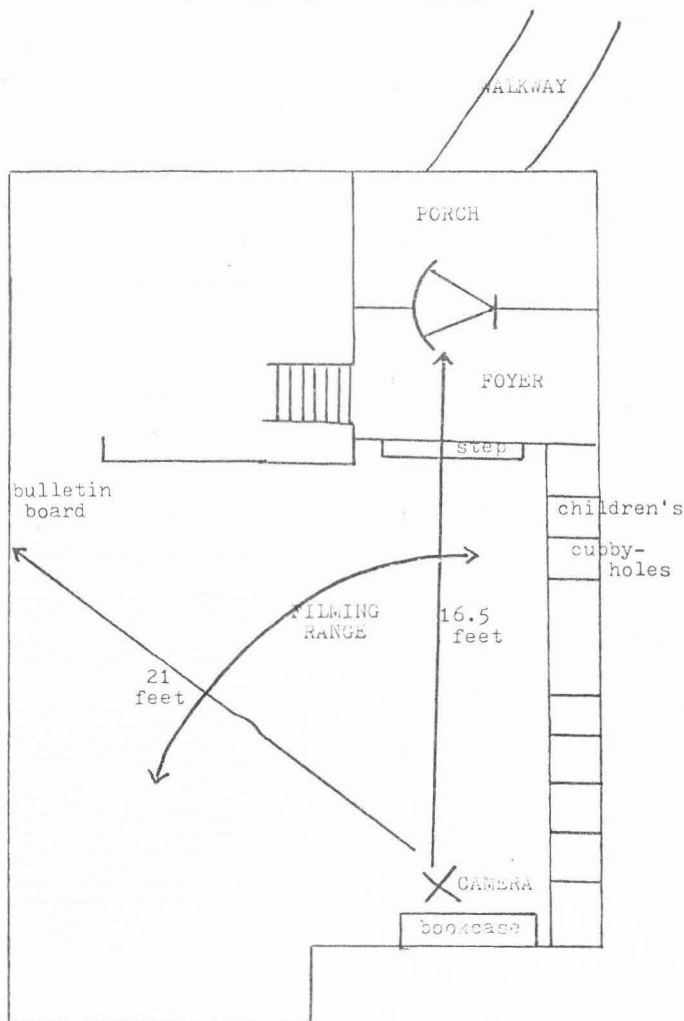


Diagram 1: Filming setting and range at the Child Development Center, Utah State University, Logan, Utah.  
 (Note: Diagram not drawn to scale.)

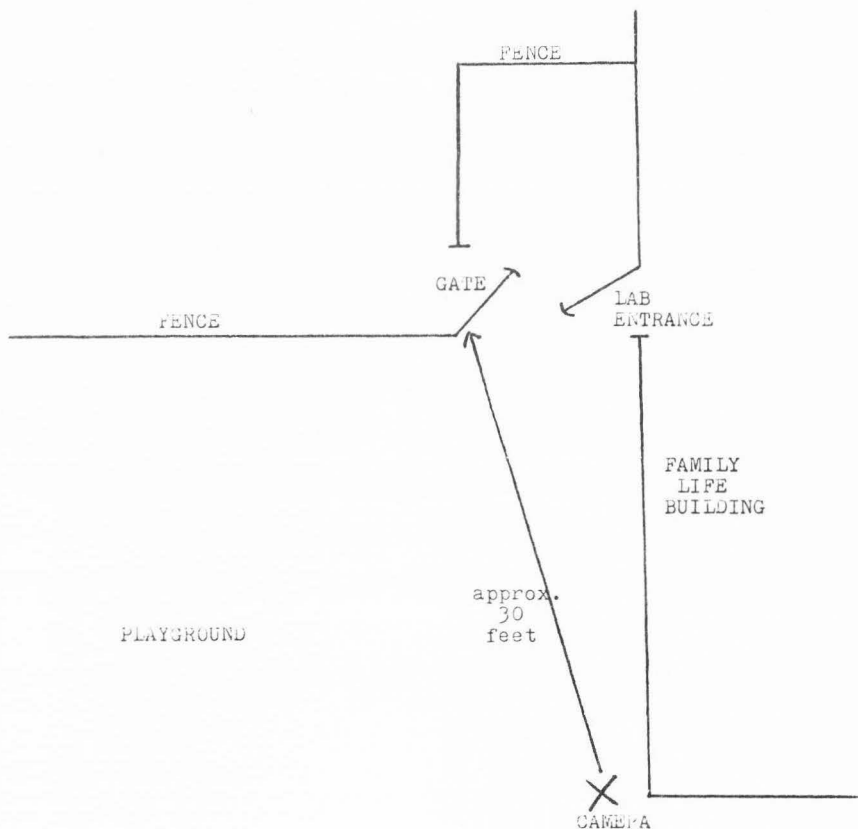


Diagram 2: Filming setting and range at the Child Development Laboratories, Utah State University, Logan, Utah.  
(Note: Diagram not drawn to scale.)



Appendix B: Cover Letter and Checklist

Dear

I am a graduate student in the Department of Family and Child Development and am interested in the area of attachment and contact that adults have with children. My specific interest lies in the area of activities that parents and children use in greeting, saying goodbye, and how they relate.

This is a checklist concerning attachment and closeness behaviors. Through this checklist, I am seeking information about attachment and contact practices between children and parents used in the home. Since both parents are important to the development of a child's attachment and dependency behaviors, I would prefer that you both answer the questions together. The information will be confidential and answering the questions will only take a few minutes to complete.

Please return the completed form to Mrs. De Graff at the Child Development Center as soon as you are through and as soon as possible. Your information is vital to my study which is for a master's thesis on parent-child affinity. I would greatly appreciate your time and cooperation in completing the following form as I could not carry out my study without your help and effort. I will, also, be more than willing to share the results with you when the study is completed.

Thank you sincerely,

Elizabeth Aoki  
Graduate Student  
Utah State University

J. Craig Peery, Ph. D.  
Major Professor  
Dept. of Family and Child Development  
Utah State University

This is a checklist concerning attachment and contact that parents have with children. It is realized that there are variations in attachment and contact behavior from situation to situation and from time to time. Please answer the questions as frankly and as accurately as possible.

### GENERAL INFORMATION

1. Name of child attending the Child Development Center: \_\_\_\_\_

2. Husband's Year of Birth \_\_\_\_\_ Wife's Year of Birth \_\_\_\_\_

3. Please check the highest level of education completed:

Husband

Wife

\_\_\_\_\_ Less than High School

\_\_\_\_\_ Completed High School

\_\_\_\_\_ 1-3 Years College

\_\_\_\_\_ 4 Years College or

\_\_\_\_\_ Bachelor's Degree

\_\_\_\_\_ Some Graduate School

\_\_\_\_\_ Master's Degree

\_\_\_\_\_ Doctoral Degree (Ph. D.)

\_\_\_\_\_ Other Schooling \_\_\_\_\_

4. Major area of study (for education beyond high school):

Husband \_\_\_\_\_

Wife \_\_\_\_\_

5. Husband's Occupation \_\_\_\_\_ Wife's Occupation \_\_\_\_\_

6. Current Total Annual Income of Household (before taxes deducted):

\_\_\_\_\_ Under \$3,000

\_\_\_\_\_ \$3,000 to \$4,999

\_\_\_\_\_ \$5,000 to \$6,999

\_\_\_\_\_ \$7,000 to \$9,999

\_\_\_\_\_ Over \$10,000

7. Number of Years Married \_\_\_\_\_

8. Please list the children in the family. Indicate the sex and age of each child in order from oldest to youngest.

	Sex	Age	Years	Months
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____

9. Religious Background (optional):

_____	Roman Catholic
_____	Protestant
_____	Jewish
_____	LDS
_____	Other

10. Type of community in which you grew up:

Husband		Wife
_____	Rural	_____
_____	Urban	_____

Please answer the following questions as frankly and as accurately as possible. Check the appropriate answer, where applicable.

11. Do you hug, kiss, or use other forms of touching between the two of you, as husband and wife, in front of your children?

Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

12. Do you hug, kiss, or use other forms of touching toward your children within the home?

Mother:  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

Father:  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

13. Do you encourage your children to be independent and to explore on their own?

Mother:  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

Father:  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

14. In general, do you use the same childrearing practices as your parents used with you?

Mother: Yes \_\_\_\_\_ No \_\_\_\_\_ In what ways is it the same or different and why? \_\_\_\_\_

Father: Yes \_\_\_\_\_ No \_\_\_\_\_ In what ways is it the same or different and why? \_\_\_\_\_

15. Describe any differences in attachment and contact behavior that you may have between the children in the family.

Mother: \_\_\_\_\_

Father: \_\_\_\_\_

Please answer the following questions in reference to your child that is presently attending the Child Development Center. Please check the most appropriate answer.

16. Does your child hug, kiss, or use other forms of touching toward the mother within the home?

Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

17. Does your child hug, kiss, or use other forms of touching toward the father within the home?

Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

18. Does your child get into bed with the both of you (as parents) during the night?

Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

19. Does your child sit on your lap to read books or magazines?

Mother:  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

Father:  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Very Often \_\_\_\_\_

20. Does your child ever not look forward to going to nursery school?

Never\_\_\_\_\_ Sometimes\_\_\_\_\_ Often\_\_\_\_\_ Very Often\_\_\_\_\_

21. Who takes your child to nursery school most often?

Father\_\_\_\_\_ Mother\_\_\_\_\_ Other (specify)\_\_\_\_\_

22. To whom does your child seem to be closer (in the family)?

Father\_\_\_\_\_ Mother\_\_\_\_\_ Other (specify)\_\_\_\_\_

23. Do you find it difficult to leave or say goodbye to your child?

Mother:  
Never\_\_\_\_\_ Sometimes\_\_\_\_\_ Often\_\_\_\_\_ Very Often\_\_\_\_\_

Father:  
Never\_\_\_\_\_ Sometimes\_\_\_\_\_ Often\_\_\_\_\_ Very Often\_\_\_\_\_

24. Do you perceive that it is difficult for your child to leave or say goodbye to you?

Mother:  
Never\_\_\_\_\_ Sometimes\_\_\_\_\_ Often\_\_\_\_\_ Very Often\_\_\_\_\_

Father:  
Never\_\_\_\_\_ Sometimes\_\_\_\_\_ Often\_\_\_\_\_ Very Often\_\_\_\_\_

Any further comments about your childrearing practices dealing with attachment, contact, or dependency behavior would be welcomed: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION!

Appendix C: Data from Completed QuestionnairesBackground information

Average age of:

Father	32
Mother	30

Level of education:

Father:

High School	0
1-3 yrs. college	1
Bachelor degree	5
Graduate school	4
Master degree	10
Doctoral degree	7
Other:	
Technical inst.	1
Vocational sch.	1

Mother:

High School	5
1-3 yrs. college	7
Bachelor degree	12
Graduate school	1
Master degree	3
Doctoral degree	1
Other:	
Nursing	1

Average annual income:

\$7,000 to \$9,999

Average number of years married:

8 years

Average number of children: 2

Average age of preschool child: 4 years 4 months

Religious background:

Roman Catholic	4
Protestant	4
Latter Day Saint	12
Moslem	1
Buddhist	1
Methodist	1
None	2
Other	3

Community background of:

Father:

Rural	12
Urban	16

Mother:

Rural	12
Urban	18

## Major area of study of:

## Father:

Business	6
Engineering	7
Education	3
Chemistry	2
Biology	2
Electronics	2
Computer Science	1
Instructional media	2
Psychology	1
Photography	1

## Mother:

Business	4
Education	3
Nursing	4
Home Economics	1
Family & Child Dev.	2
Biology	2
Sociology	1
Psychology	1
Math	1
French	1
Computer Science	1

## Occupation of:

## Father:

Student	11
Teacher/Education	7
Engineer	3
Military	2
Park ranger	1
Mercant	1
Computer manager	1
Microwave maintainer	1
Logger	1

## Mother:

Housewife	16
Student	6
Teacher	2
Nurse	2
Secretary	2
Computer Programmer	1

Questions

11. Do you hug, kiss, or use other forms of touching between the two of you, as husband and wife, in front of your children?

Never	1
Sometimes	8
Often	16
Very Often	4

12. Do you hug, kiss, or use other forms of touching toward your children within the home?

## Mother:

Never	1
Sometimes	2
Often	13
Very Often	14

## Father:

Never	1
Sometimes	4
Often	16
Very Often	6

13. Do you encourage your children to be independent and to explore on their own?

## Mother:

Never	0
Sometimes	9
Often	15
Very Often	6

## Father:

Never	0
Sometimes	7
Often	15
Very Often	6

14. In general, do you use the same childrearing practices as your parents used with you?

Mother:

Yes 14  
No 16

Father:

Yes 13  
No 15

In what ways is it the same or different and why?

Those who answered "yes" gave reasons such as: same punishments, same closeness with child, same discipline and love. Those who answered "no" gave reasons such as: more liberal with child, more acceptance and love, less physical punishment, give more encouragement to the child.

15. Describe any differences in attachment and contact behavior that you may have between the children in the family.

Both mother and father tended to say that they pay more attention to the younger child (when there is one). Six families have only one child, five families said there is little or no difference in their contact behavior. If a difference was expressed, both parents feel closer to, have more physical contact with the younger child, and tend to physically punish the older child more.

16. Does your child hug, kiss, or use other forms of touching toward the mother within the home?

Never 0  
Sometimes 5  
Often 16  
Very Often 9

17. Does your child hug, kiss, or use other forms of touching toward the father within the home?

Never 0  
Sometimes 9  
Often 13  
Very Often 7

18. Does your child get into bed with the both of you (as parents) during the night?

Never 10  
Sometimes 18  
Often 1  
Very Often 1

19. Does your child sit on your lap to read books or magazines?

Mother:

Never 0  
Sometimes 9  
Often 14  
Very Often 7

Father:

Never 2  
Sometimes 10  
Often 12  
Very often 5



20. Does your child ever not look forward to going to nursery school?

Never	20
Sometimes	10
Often	0
Very Often	0

21. Who takes your child to nursery school most often?

Mother	22
Father	12
Grandmother	1
Neighbor	1

22. To whom does your child seem to be closer?

Mother	24
Father	10

23. Do you find it difficult to leave or say goodbye to your child?

Mother:

Never	8
Sometimes	20
Often	2
Very Often	0

Father:

Never	11
Sometimes	14
Often	3
Very Often	0

24. Do you perceive that it is difficult for your child to leave or say goodbye to you?

Mother:

Never	8
Sometimes	17
Often	5
Very Often	0

Father:

Never	9
Sometimes	17
Often	1
Very Often	0

Appendix D: Definitions of Leave-Taking Behavior ItemsChild Behavior

wave--Child waves his hand toward parent. The forearm is raised and the hand opened, palm towards parent. Blurton Jones and Leach commented that the amount or number of waving movements, and whether wrist or upper arm joints or fingers provide the movement, seem to differ from one individual to another.

smile--The mouth is partially opened and the mouth corners turned up. No attempt was made to differentiate between the child smiling at the teacher, parent, or at no one in particular.

kiss--The child reaches up to parent and touches his lips to the parent's face.

cling--Child seeks close proximity to the parent by holding onto some part of the parent's body, and remains close to him.

touch--Child reaches out and actively touches the parent. This included holding hands, embracing the parent's legs, leaning against the parent, touching the parent's clothes, and so on.

face--Child turns face and eyes toward parent, for whatever duration.

hug--Child puts arms around the neck of the parent and embraces him. Child hugging was usually reciprocated by the parent.

gaze P--Child looks at parent, whether eye contact is made or not.

gaze T--Child looks at teacher, whether eye contact is made or not.

gaze back--Child looks back in direction of parent after he has walked away from the parent, or looks back when he is in front (with back to parent) or ahead of the parent. Whole body is usually not turned around, but head and upper torso is twisted enough to allow child to look behind him.

flat affect--Child has no expression or an expression of indifference on his face as he enters preschool area and this expression endures throughout time until he or parent leaves.

back to P--Child turns away so that his back is toward the parent, for whatever duration.

approach P--Child moves toward parent.

initiate away--Child makes initiating movement that leads to parent and child definitely separating from each other. The child moves away from the parent first.

### Parent Behavior

approach C--Parent moves toward child.

approach T--Parent moves toward teacher.

wave--Parent waves his hand toward the child. The forearm is raised and the hand opened, palm toward the child.

smile C--Parent smiles when looking at child (regardless of whether the child is looking at him).

smile T--Parent smiles when looking at the teacher.

kiss--Parent touches his lips to the child's face. Usually the child's kiss was reciprocated with a kiss from the parent, but the parent's kiss was not necessarily returned by the child.

touch--Parent touches child. This includes holding hands, hand on shoulder, hand on back, hand on head, and so on.

groom--Parent engages in an activity to make the child more neat, attractive, or presentable. This includes stroking or pushing back the child's hair, taking off his coat, hat and gloves, combing his hair, and so on.

hug--Parent puts arms around the neck or upper torso of the child and embraces him. Usually, a hug was accompanied by a kiss.

gaze C--Parent looks at child, regardless of whether eye contact is made or not.

gaze T--Parent looks at teacher, regardless of whether eye contact is made or not.

gaze back--Parent looks back in direction of child after he has moved away from the child.

greet T--Parent moves toward teacher, looks at her and seems to address some remarks to her. This was counted if carried out as the parent and child entered the preschool area.

initiate away--Parent makes first move away from child, thus initiating the separation.

### Teacher Behavior

approach C--Teacher moves toward child, regardless of whether child is still or moving.

approach P--Teacher moves toward parent, regardless of whether parent is still or moving.

smile C--Teacher smiles at child when looking at him.

smile P--Teacher smiles when looking at the parent.

touch--Teacher touches the child. This includes holding hands, hand on back, hand on head, hand on shoulder, and so on.

gaze C--Teacher looks toward child, regardless of whether eye contact is made or not.

gaze P--Teacher looks toward parent, regardless of whether eye contact is made or not.

talk--Teacher seems to address her remarks to parent or child while looking at them.

## VITA

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Master of Science

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Major Field: Family and Child Development

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# CREDITS

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